

**REMARKS/ARGUMENTS**

Claims 1-5 and 7-28 are pending in this application. By this Amendment, claims 1-5, 7-18, 21, 22 and 24-28 are amended, and claim 6 is canceled without prejudice or disclaimer. Support for the claims can be found throughout the specification, including the original claims and the drawings. Withdrawal of the rejections in view of the above amendments and the following remarks is respectfully requested.

**I. Informalities**

The Office Action objects to claim 28 due to informalities. It is respectfully submitted that the amendments to claim 28 are responsive to the Examiner's comments, and thus this objection should be withdrawn.

**II. Rejection Under 35 U.S.C. §102(b)**

The Office Action rejects claims 1-3, 5-10 and 18-25 under 35 U.S.C. §102(b) over U.S. Patent No. 4,569,328 to Shukla et al. (hereinafter "Shukla"). Claim 6 has been cancelled. The rejection, in so far as it applies to claims 1-3, 5, 7-10 and 18-25, is respectfully traversed.

Independent claim 1 is directed to a device that supplies mixed gas to radiant heating type gas burners having a housing, a plurality of burner assemblies in the housing for combustion of the mixed gas therein, each of the plurality of burner assemblies having a burner chamber that receives a mixture of fuel gas and air therein, and a glass plate placed on top of the housing. The device includes a plurality of mixing tubes respectively in communication with the plurality of burner chambers for supplying the fuel gas and air thereto, a plurality of gas nozzles for

respectively spraying the fuel gas into the plurality of mixing tubes, and a plurality of air supply tubes for respectively directing air toward the plurality of mixing tubes. A first end of each of the plurality of mixing tubes is coupled to a corresponding burner chamber and a first end of each of the plurality of air supply tubes is axially aligned with a second end of a corresponding mixing tube, with a predetermined gap formed therebetween. The device also includes a plurality of air passages defined by the predetermined gaps formed between the air supply tubes and the mixing tubes, wherein outside air is drawn through the plurality of air passages and into the plurality of mixing tubes by a pressure difference between the outside and inside of the mixing tubes, and a fan in communication with a second end of at least one of the plurality of air supply tubes for supplying air thereto.

Independent claims 18, 21 and 22 recite similar features in varying scope.

Shukla neither discloses nor suggests all of the features recited in independent claims 1, 18, 21 and 22, or the respective claimed combinations of features.

Shukla discloses in Figures 2 and 3 (referred to in the Office Action) a gas range 70 including multiple cooktops 72 (i.e., burners). Each of the cooktops 72 includes a perforated jet plate 76 positioned atop a ceramic tile burner 80. User manipulation of a knob 106 rotates a gas valve shaft 104 to selectively position a mixing valve 84 so that fuel gas from a gas supply line 108 and air from an air tube 94 are mixed by the valve 84 and flow through an air/gas feed duct 82 and into the tile burner 80 for combustion.

Independent claim 1 recites that a first end of each of the plurality of air supply tubes is axially aligned with a second end of a corresponding mixing tube, with a predetermined gap formed therebetween. In contrast, in Shukla's range 70, the air tube 94 (compared in the Office Action to the claimed air supply tube) is both horizontally and vertically offset from the air/gas feed duct 82 (compared in the Office Action to the claimed mixing tube). Thus, Shukla neither discloses nor suggests that a first end of each of the plurality of air supply tubes is axially aligned with a second end of a corresponding mixing tube, with a predetermined gap formed therebetween, as recited in independent claim 1. Similarly, Shukla neither discloses nor suggests a plurality of air supply tubes each spaced a predetermined distance apart from and axially aligned with a corresponding end of a respective mixing tube of the plurality of mixing tubes, as recited in independent claims 18 and 21; nor an air supply tube positioned at an outside of the mixing tube such that an end thereof is spaced a predetermined distance apart from a corresponding end of the mixing tube in a radial direction, as recited in independent claim 22.

Further, Shukla necessarily neither discloses nor suggests a plurality of air passages defined by predetermined gaps formed between the air supply tubes and the mixing tubes, nor that outside air is drawn through the plurality of air passages and into the plurality of mixing tubes by a pressure difference between the outside and inside of the mixing tubes, as recited in independent claim 1. Similarly, Shukla neither discloses nor suggests a plurality of air passages defined by predetermined gaps formed between the air supply tubes and the mixing tubes, wherein outside air is drawn through the plurality of air passages and into the plurality of mixing

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tubes by a pressure difference between the outside and inside of the mixing tubes, as recited in independent claims 18 and 21; nor an air passage formed between the corresponding ends of the air supply tube and the mixing tube, wherein a pressure difference between the outside and an interior of the mixing tube draws air into the mixing tube through the air passage, as recited in independent claim 22.

Accordingly, it is respectfully submitted that independent claims 1, 18, 21 and 22 are not anticipated by Shukla, and thus the rejection of independent claims 1, 18, 21 and 22 under 35 U.S.C. §102(b) over Shukla should be withdrawn. Dependent claims 2, 3, 5, 7-10, 19, 20 and 23-25 are allowable over Shukla at least for the reasons set forth above with respect to independent claims 1, 18 and 22, from which they respectively depend, as well as for their added features.

### **III. Rejections Under 35 U.S.C. §103(a)**

The Office Action rejects claim 4 under 35 U.S.C. §103(a) over Shukla in view of U.S. Patent No. 5,325,842 to Beach et al. (hereinafter "Beach"). The Office Action also rejects claims 11 and 12 under 35 U.S.C. §103(a) over Shukla in view of U.S. Patent No. 5,193,273 to Riehl (hereinafter "Riehl"); claims 13, 14, 26 and 27 under 35 U.S.C. §103(a) over Shukla; claims 15 and 28 under 35 U.S.C. §103(a) over Shukla in view of U.S. Patent No. 2,494,243 to L.D. Houlis (hereinafter "Houlis"); claim 16 under 35 U.S.C. §103(a) over Shukla in view of U.S. Patent No. 5,425,353 to Herbert (hereinafter "Herbert"); and claim 17 under 35 U.S.C. §103(a) over Shukla in view of U.S. Patent No. 6,261,089 to Aldo (hereinafter "Aldo"). These rejections are respectfully traversed.

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Dependent claims 11-17 and 26-28 are allowable over Shukla at least of the reasons set forth above with respect to independent claims 1 and 22, from which they respectively depend, as well as for their added features. Further, Beach is merely cited as allegedly teaching a fan outside a housing; Riehl is merely cited as allegedly teaching a mixing tube assembly having two symmetric members bonded together; Houlis is merely cited as allegedly teaching a mixing tube having an expanded tube form; Herbert is merely cited as allegedly teaching a variable speed motor; and Aldo is merely cited as allegedly teaching a plurality of air supply tubes. Thus, Beach, Riehl, Houlis, Herbert and Aldo, either alone or in combination, fail to overcome the deficiencies of Shukla. Accordingly, it is respectfully submitted that claims 11-17 and 26-28 are allowable over the respective applied combinations, and thus the rejections should be withdrawn.

#### **IV. Conclusion**

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned, **Joanna K. Mason**, at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this,

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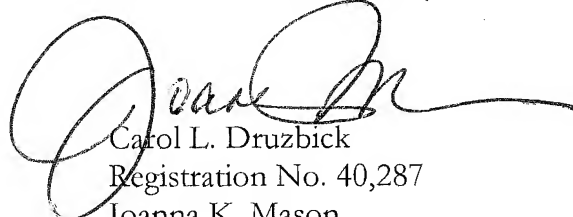
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concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,  
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